

Amendments to the Claims:

Please cancel claims 4, 16, 17, 26 and 27, amend claims 1, 5, 13, 24 and 28, and add new claim 34 as shown in the following list of claims. This listing of claims will replace all prior versions and listings of the claims in this application.

- 1 1. (currently amended) A method of demosaicing a mosaiced image
2 comprising:
3 receiving said mosaiced image, said mosaiced image being a
4 representation of a scene of interest; and
5 processing said mosaiced image using a demosaicing operator on
6 blocks of said mosaiced image to derive a representation of a demosaiced image,
7 including interpolating said mosaiced image using said demosaicing operator, said
8 demosaicing operator incorporating a frequency-based transformation operator to
9 take into account a subsequent frequency-based compression process, said
10 demosaicing operator being derived by defining selected coefficients of
11 transformation-related coefficients as being equal to zero.
- 1 2. (original) The method of claim 1 wherein said demosaicing operator used
2 in said processing of said mosaiced image includes a color space conversion
3 operator for converting from an original color space to a different color space.
- 1 3. (original) The method of claim 2 wherein said demosaicing operator used
2 in said processing of said mosaiced image includes said color space conversion
3 operator for converting from an *RGB* color space to a *YcCb* color space.
- 1 4. (canceled).
- 1 5. (currently amended) The method of claim 1 [[4]] wherein said selected
2 coefficients are higher frequency components than remaining coefficients of said
3 transformation-related coefficients.

1 6. (original) The method of claim 1 wherein said processing of said mosaiced
2 image includes interpolating said mosaiced image using said demosaicing
3 operator, said demosaicing operator being derived by defining transformation-
4 related coefficients as having a predefined probability distribution.

1 7. (original) The method of claim 6 wherein said demosaicing operator is
2 derived using the Bayesian rule.

1 8. (original) The method of claim 6 wherein said predefined probability
2 distribution is a Normal distribution.

1 9. (original) The method of claim 1 wherein said frequency-based
2 transformation operator is a DCT-based transformation operator.

1 10. (original) The method of claim 1 wherein said frequency-based
2 transformation operator is a wavelet-based transformation operator.

1 11. (original) The method of claim 1 wherein said representation of said
2 demosaiced image includes one of (a) a plurality of image pixel values, and (b) a
3 plurality of transformed coefficients.

1 12. (original) The method of claim 1 wherein said demosaicing operator and
2 said frequency-based transformation operator are matrices.

1 13. (currently amended) A method of processing a mosaiced image
2 comprising:
3 receiving said mosaiced image, said mosaiced image being a
4 representation of a scene of interest;
5 demosaicing said mosaiced image using a demosaicing operator to
6 produce a representation of a demosaiced image, said demosaicing operator
7 incorporating a frequency-based transformation operator; and
8 compressing said representation of said demosaiced image using a
9 frequency-based compression scheme; and
10 generating said demosaicing operator, including defining
11 transformation-related coefficients that are associated with said compressing of
12 said demosaiced image, said defining of said transformation-related coefficients
13 including defining selected coefficients of said transformation-related coefficients
14 as being equal to zero.

1 14. (original) The method of claim 13 wherein said demosaicing operator used
2 in said demosaicing of said mosaiced image includes a color space conversion
3 operator for converting from an original color space to a different color space.

1 15. (original) The method of claim 14 wherein said demosaicing operator used
2 in said demosaicing of said mosaiced image includes said color space conversion
3 operator for converting from an *RGB* color space to a *Yc,cb* color space.

1 16. (canceled).

1 17. (canceled).

1 18. (original) The method of claim 17 wherein said selected coefficients are
2 higher frequency components than remaining coefficients of said transformation-
3 related coefficients.

1 19. (original) The method of claim 16 wherein said defining of said
2 transformation-related coefficients includes defining said transformation-related
3 coefficients as having a predefined probability distribution.

1 20. (original) The method of claim 19 wherein said generating of said
2 demosaicing operator includes applying the Bayesian rule to derive said
3 demosaicing operator.

1 21. (original) The method of claim 13 wherein said frequency-based
2 transformation operator is a DCT-based transformation operator, and wherein said
3 frequency-based compression scheme is a DCT-based compression scheme.

1 22. (original) The method of claim 13 wherein said frequency-based
2 transformation operator is a wavelet-based transformation operator, and wherein
3 said frequency-based compression scheme is a wavelet-based compression
4 scheme.

1 23. (original) The method of claim 13 wherein said representation of said
2 demosaiced image includes one of (a) a plurality of image pixel values, and (b) a
3 plurality of transformed coefficients.

1 24. (original) A system for processing a mosaiced image comprising:
2 means for demosaicing said mosaiced image to produce a
3 representation of a demosaiced image using a demosaicing operator, said
4 demosaicing operator incorporating a frequency-based transformation operator;
5 and
6 means for compressing said representation of said demosaiced
7 image to produce a compressed image file, said compressing means configured to
8 perform a frequency-based compression process,
9 wherein said demosaicing operator is derived by defining
10 transformation-related coefficients that are associated with said frequency-based
11 compression process performed by said compressing means and by defining
12 selected coefficients of said transformation-related coefficients as being equal to
13 zero.

1 25. (original) The system of claim 24 wherein said demosaicing operator used
2 by said demosaicing means includes a color space conversion operator for
3 converting to a Yc,Cb color space.

1 26. (canceled).

1 27. (canceled).

1 28. (currently amended) The system of claim 24 [[26]] wherein said
2 demosaicing operator is derived by defining said transformation-related
3 coefficients as having a predefined probability distribution.

1 29. (original) The system of claim 24 wherein said demosaicing means and
2 said compressing means are embodied in an application specific integrated circuit.

1 30. (original) The system of claim 24 wherein said frequency-based
2 transformation operator is a DCT-based transformation operator, and wherein said
3 frequency-based compression process is a DCT-based compression process.

1 31. (original) The system of claim 24 wherein said frequency-based
2 transformation operator is a wavelet-based transformation operator, and wherein
3 said frequency-based compression process is a wavelet-based compression
4 process.

1 32. (original) The system of claim 24 wherein said representation of said
2 demosaiced image includes one of (a) a plurality of image pixel values, and (b) a
3 plurality of transformed coefficients.

1 33. (original) The method of claim 24 wherein said demosaicing operator and
2 said frequency-based transformation operator are matrices.

1 34. (new) A method of demosaicing a mosaiced image comprising:
2 receiving said mosaiced image, said mosaiced image being a
3 representation of a scene of interest; and
4 processing said mosaiced image using a demosaicing operator on
5 blocks of said mosaiced image to derive a representation of a demosaiced image,
6 including interpolating said mosaiced image using said demosaicing operator, said
7 demosaicing operator incorporating a frequency-based transformation operator to
8 take into account a subsequent frequency-based compression process, said
9 demosaicing operator being derived by defining transformation-related
10 coefficients as having a predefined probability distribution, said demosaicing
11 operator being derived using the Bayesian rule.